

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 15, 2009 by Friedman & Bruya, Inc. from the Landau Associates 0273015-010-011, F&BI 912134 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Landau Associates</u>
912134-01	RD3300S
912134-02	RD3317S
912134-03	RD3405U
912134-04	RD3405L
912134-05	RD3200W

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: RD3300S
Date Received: 12/15/09
Date Extracted: 12/16/09
Date Analyzed: 12/17/09
Matrix: Water
Units: ug/L (ppb)

Client: Landau Associates
Project: 0273015-010-011, F&BI 912134
Lab ID: 912134-01
Data File: 912134-01.055
Instrument: ICPMS1
Operator: AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	97	60	125

Analyte:	Concentration ug/L (ppb)
Copper	3.90
Zinc	30.6

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ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: RD3317S
Date Received: 12/15/09
Date Extracted: 12/16/09
Date Analyzed: 12/17/09
Matrix: Water
Units: ug/L (ppb)

Client: Landau Associates
Project: 0273015-010-011, F&BI 912134
Lab ID: 912134-02
Data File: 912134-02.056
Instrument: ICPMS1
Operator: AP

Internal Standard:	% Recovery:	Lower	Upper
Germanium	95	Limit:	Limit:
		60	125

Analyte:	Concentration ug/L (ppb)
Copper	10.1
Zinc	3,340

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ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: RD3405U
Date Received: 12/15/09
Date Extracted: 12/16/09
Date Analyzed: 12/17/09
Matrix: Water
Units: ug/L (ppb)

Client: Landau Associates
Project: 0273015-010-011, F&BI 912134
Lab ID: 912134-03
Data File: 912134-03.057
Instrument: ICPMS1
Operator: AP

Internal Standard:	% Recovery:	Lower	Upper
Germanium	96	Limit: 60	Limit: 125

Analyte:	Concentration ug/L (ppb)
Copper	4.09
Zinc	108

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ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: RD3405L
Date Received: 12/15/09
Date Extracted: 12/16/09
Date Analyzed: 12/17/09
Matrix: Water
Units: ug/L (ppb)

Client: Landau Associates
Project: 0273015-010-011, F&BI 912134
Lab ID: 912134-04
Data File: 912134-04.058
Instrument: ICPMS1
Operator: AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	96	60	125

Analyte:	Concentration ug/L (ppb)
Copper	171
Zinc	155

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: RD3200W
Date Received: 12/15/09
Date Extracted: 12/16/09
Date Analyzed: 12/17/09
Matrix: Water
Units: ug/L (ppb)

Client: Landau Associates
Project: 0273015-010-011, F&BI 912134
Lab ID: 912134-05
Data File: 912134-05.059
Instrument: ICPMS1
Operator: AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	96	60	125

Analyte:	Concentration ug/L (ppb)
Copper	9.47
Zinc	349

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ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Landau Associates
Date Received:	Not Applicable	Project:	0273015-010-011, F&BI 912134
Date Extracted:	12/16/09	Lab ID:	I9-549 mb
Date Analyzed:	12/17/09	Data File:	I9-549 mb.041
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Germanium	96	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)
Copper	<1
Zinc	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/09

Date Received: 12/15/09

Project: 0273015-010-011, F&BI 912134

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 912135-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Copper	ug/L (ppb)	<1	<1	nm	0-20
Zinc	ug/L (ppb)	108	106	2	0-20

Laboratory Code: 912135-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Copper	ug/L (ppb)	20	<1	108	50-150
Zinc	ug/L (ppb)	50	108	108 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Copper	ug/L (ppb)	20	106	70-130
Zinc	ug/L (ppb)	50	105	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 - More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - The sample was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.